

Work Order ID 146190

Wednesday, May 11, 2016 9:21:36 AM

22/Nov
146190

Page 1

Item ID: D350-636-111

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Glacier Wearplates

Start Date: 6/2/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/14/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: *dem*

Date: *16/05/11*

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
DSI 9662	B

100

0.00

100

DC

DOCUMENT CONTROL

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D350-636-111 CHG001

3 **DAS 27**
9-89

NOV 21 2016

110

0.00

110

Packaging

Pick Kit

Memo

0.00

Packaging

3 **DAS 6** **DAS 28**
9-89 *1-89*

NOV 18 2016

120

0.00

120

QC

QC4- 100% Inspect kits for completeness

Memo

0.03

Quality Control

3 **DAS 27**
9-89

NOV 21 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 146190

Wednesday, May 11, 2016 9:21:36 AM

146190

Page 2

Item ID: D350-636-111

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Glacier Wearplates

Start Date: 6/2/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/14/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-636-111 Location: _____								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.10							
Quality Control									

3

DAS
28
9-89DAS
27
9-89

NOV 21 2016

21
9-89

NOV 21 2016

DAS
21
9-89

NOV 21 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____									

Picklist Print

Page 1

Wednesday, May 11, 2016 9:21:43 AM

Work Order ID: 146190

146190

Parent Item: D350-636-111

D350-636-111

Parent Item Name: Glacier Wearplates

Start Date: 6/2/2016

Required Date: 6/14/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 14.04.03 NEW ISSUE DD VERF:JLM IPP
REV:B 14.11.13 DSI REVB DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4923-041 *D4923-041* Wearplate Assembly		Manufactured	No				Each	17.0000		9 x 12			
									**			NOV 18 2016	DAS 6 28 9-89 9-89
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST188				17					
				119712				17		12			
D4933-041 *D4933-041* Wearplate Assembly		Manufactured	No				Each	6.0000		2 x 24			
									**			NOV 18 2016	DAS 6 28 9-89 9-89
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST189				6					
				129941				6		6			
D4934-041 *D4934-041* Blade Assembly		Manufactured	No				Each	0.0000		2 x 6			
									**			NOV 18 2016	DAS 6 28 9-89 9-89
										146774x4 145573x2			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐		☐	Pressure/Forced	☐	Temperature/Cure
Design ☐	☐	Operator ☐		☐	Bending	☐	Set-up
Doc/Data ☐	☐	Offset/Setup ☐		☐	Centre Not Concentric	☐	BOM/Route
Equip/Tooling ☐	☐	Supplier ☐		☐	Cracks	☐	Broken/Damage/Defect
Handling/Pre ☐	☐	Training ☐		☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified
Material ☐	☐	Use for Testing ☐		☐	Cuffs	☐	Contamination
Internal Transport ☐	☐	Poor Information ☐		☐	Crushing	☐	Countersink
Tribal Knowledge ☐	☐	Rushing ☐		☐	Heat Treat	☐	Cut Too Short
LOA ☐	☐	Product Improvement ☐		☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear
Substation ☐	☐	Process Improvement ☐		☐	Marks/Chatter	☐	Drill Holes
Past Expiry Date ☐	☐	Manufacturing Process ☐		OTHER : _____			
Misidentified ☐	☐	Past Due ☐					

Picklist Print

Wednesday, May 11, 2016 9:21:43 AM

Work Order ID: 146190

146190

Parent Item: D350-636-111

D350-636-111

Parent Item Name: Glacier Wearplates

Start Date: 6/2/2016

Required Date: 6/14/2016

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

Each

1,463.000

**

AN3C5A

Bolt

DAS
27
9-89

Location

Loc Qty

Loc Code

FG	5	
122800	5	
FP001	2	
M133686	2	
OVER002	1400	
M134502	1000	
M134676	400	
ST350	56	
M133234	56	

NOV 18 2016

DAS
6
9-89
DAS
28
9-89

NAS1149C0332R

Purchased

No

Each

4,867.000

**

NAS1149C0332R

WASHER

DAS
27
9-89

Location

Loc Qty

Loc Code

FP001	1412	
m132262	4	
m132930	1004	
m134063	276	
m134073	128	
GA	213	
m133284	213	
ST266	3242	
m134474	142	
m134574	1000	
m134654	100	
m134736	2000	

NOV 18 2016

DAS
6
9-89
DAS
28
9-89

135408

24 72

48
27
12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D350-636 REV. J
AND INSTRUCTIONS FOR CONTINUING AIRWORTHINESS ICA-D350-636 REV. 3
REF. FAA STC: SR00646SE
REF. CANADIAN STC: SH99-7
REF. EASA STC: 10033942

1.0 PURPOSE

The purpose of this service instruction is to introduce the D350-636-111/-113 Wearplate Kits.

The D350-636-111 Wearplate Kit replaces elements of the D350-636-011/-012/-013/-014 Skidtubes and elements of the D350-636-041/-043/-045 Wearshoe Kit and is designed to improve grip on low friction surfaces such as ice. The components in the D350-636-111 Wearplate Kit are defined in the parts list in Section 2.0.

The D350-636-113 Wearplate Kit replaces elements of the D350-636-015/-016/-017/-018 Skidtubes and elements of the D350-636-047 Wearplate Kit and is designed to improve grip on low friction surfaces such as ice. The components of the D350-636-113 Wearplate Kit are defined in the parts list in Section 2.0

2.0 PARTS LIST

QTY -111	QTY -113	Part Number	Description
X		D350-636-111	WEARPLATE KIT
	X	D350-636-113	WEARPLATE KIT
4		D4923-041	WEARPLATE ASSY
2		D4933-041	WEARPLATE ASSY
2	2	D4934-041	BLADE ASSY
	2	D5146-041	WEARPLATE ASSY
24		AN3C5A	BOLT
	8	AN3C36A	BOLT
	8	MS21043-3	NUT
24	16	NAS1149C0332R	WASHER (AN960C10)

B	ADD D350-636-113 WEARPLATE KIT	DB	14.08.21
A	NEW ISSUE	DB	13.09.11
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	<i>mka</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION SHEET 1 OF 4	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	DSI 9662	NTS
DATE	14.08.21	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O 146190

den 16/05/11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

3.0 WEIGHT AND BALANCE

The following are the net weight increases associated with the D350-636-111 and D350-636-113 Kits.

Installation	Weight	LONGITUDINAL		LATERAL (STD GEAR)		LATERAL (HIGH GEAR)	
		Arm	Moment	Arm	Moment	Arm	Moment
*D350-636-111 WEARPLATE KIT	3.82 lb 1.74 kg	132.1 in 3.4 m	504.6 in-lb 5.9 m-kg	0	0	0	0
**D350-636-113 WEARPLATE KIT	1.8 lb 3.96 kg	123.2 in 3.15 m	221.8 in-lb 12.5 m-kg	0	0	0	0

* Weight added to relevant skidtube installation when D350-636-111 Wearplate Kit is installed as replacement on D350-636-011/-012/-013/-014 Skidtubes.

**Weight added to relevant skidtube installation when D350-636-113 Wearplate Kit is installed as replacement on D350-636-015/-016/-017/-018 Skidtubes.

4.0 INSTALLATION OF D350-636-111 WEARPLATE KIT

- 4.1 Refer to Figure 1 on sheet 3 of this Service Instruction. Remove and retain the components indicated per ICA-D350-636, Sections 32.3 and 32.4. Ensure the AN8 fasteners are serviceable.
- 4.2 Inspect skidtube per ICA-D350-636.
- 4.3 Refer to Figure 2 on sheet 3 of this service instruction. Install the D4934-041 Blade Assy. Torque the AN8C21A bolts to 480-690 in-lbs (54.2-78.0 N-m).
- 4.4 Refer to Figure 2 on sheet 3. Install the D4923-041 Wearplate Assy and the D4933-041 Wearplate Assy as shown. Torque the AN3C5A bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 4.5 Repeat this procedure for the other Skidtube.
- 4.6 Adjust Weight and Balance per Section 3.0 of this Service Instruction.

DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	<i>mLee</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION SHEET 2 OF 4	
APPROVED	<i>WJP</i>	TITLE	SCALE
DE APPR.	<i>WJP</i>	DSI 9662	NTS
DATE	14.08.21	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : _____							

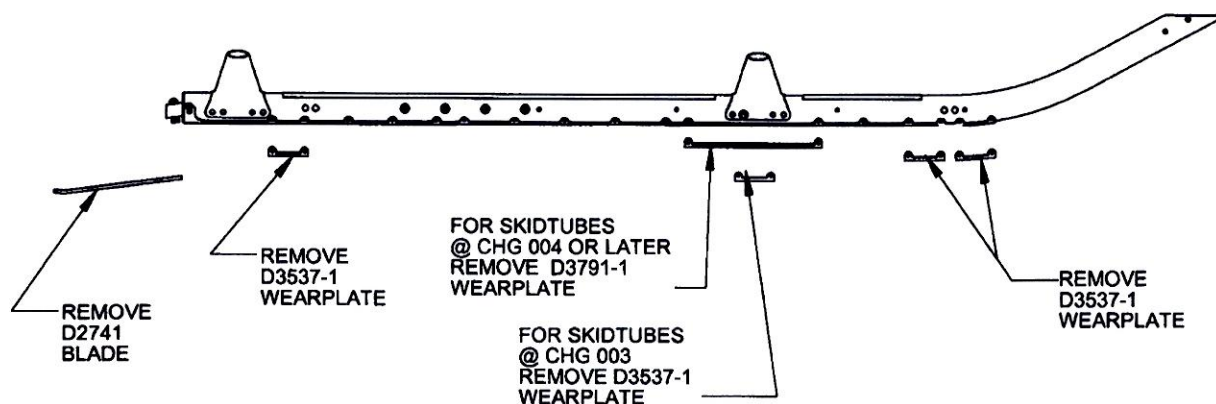


FIGURE 1: BLADE/WEARPLATE REMOVAL

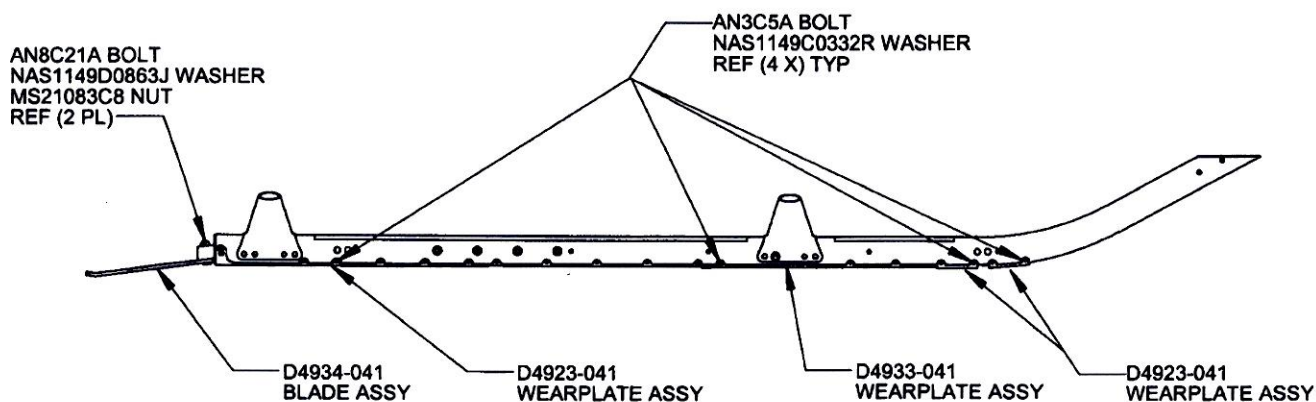


FIGURE 2: D350-636-111 WEARPLATE INSTALLATION

NOTE: THE 2 x D4923-041 WEARPLATES CAN BE INSTALLED IN ANY 2 OF THE 3 LOCATIONS INDICATED IN FIGURE 2 ABOVE. A PARTIAL INSTALL OF THE COMPONENTS PROVIDED IN THE D350-636-111 KIT IS ACCEPTABLE AS LONG AS THE INSTALLATION IS THE SAME ON BOTH SKIDTUBES.

DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	<i>M. Lee</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION SHEET 3 OF 4	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	DSI 9662	NTS
DATE	14.08.21	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____				
Misidentified ☐	Past Due ☐					

5.0 INSTALLATION OF D350-636-113 WEARPLATE KIT

- 5.1 Refer to Figure 3 below. Remove and retain the components indicated per ICA-D350-636, Sections 32.3 and 32.4. Ensure the AN8 fasteners are serviceable.
- 5.2 Inspect skidtube per ICA-D350-636.
- 5.3 Refer to Figure 4 below. Install the D4934-041 Blade Assy. Torque the AN8C21A bolts to 480-690 in-lbs (54.2-78.0 N-m).
- 5.4 Refer to Figure 4 below. Install the D5146-041 Wearplate Assy as shown. Torque the AN3C36A bolts to 15-25 in-lbs (1.7-2.8 N-m). Torque the AN8C35A bolt to 480-690 in-lbs (54.2-78.0 N-m).
- 5.5 Repeat this procedure for the other skidtube.
- 5.6 Adjust Weight and Balance per Section 3.0.

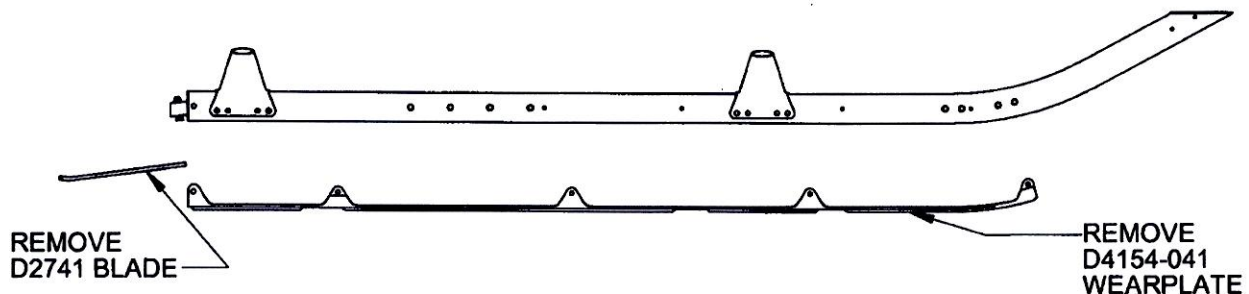


FIGURE 3: BLADE/WEARPLATE REMOVAL
(RETAIN FASTENERS)

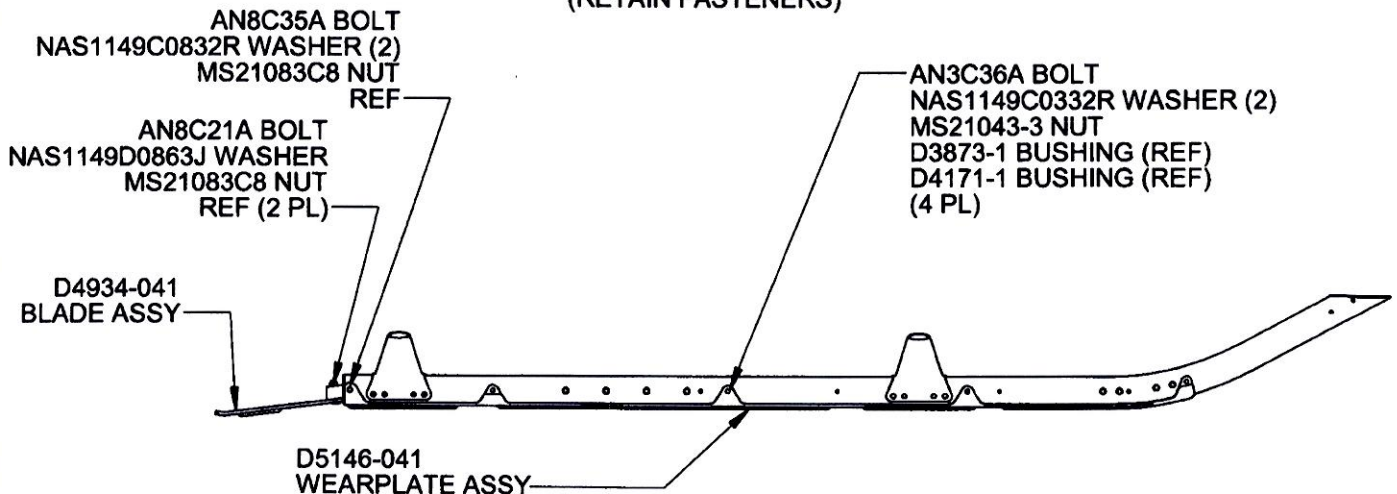


FIGURE 4: D350-636-113 WEARPLATE INSTALLATION

DESIGN	DB	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	<i>mklee</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION	
APPROVED	<i>WJP</i>	SHEET 4 OF 4	
DE APPR.	<i>WJP</i>	TITLE	SCALE
DATE	14.08.21	DSI 9662	NTS
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 146190***146190***

Page 1

Friday, November 18, 2016 7:16:10 AM

Item ID: D350-636-111

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Glacier Wearplates

Start Date: 11/17/2016 Start Qty: 3.00

3

Cust Item ID:

Required Date: 11/22/2016 Req'd Qty: 3.00

3

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
DSI 9662	B

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D350-636-111 CHG001

DAS
21
9-30

NOV 18 2016

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

120

QC4- 100% Inspect kits for completeness

0.00

120

QC

Memo

0.02

Quality Control

DART SERVICE INSTRUCTION

REFERENCE ONLY

TO AMEND INSTALLATION INSTRUCTIONS IIN-D350-636 REV. J
AND INSTRUCTIONS FOR CONTINUING AIRWORTHINESS ICA-D350-636 REV. 3
REF. FAA STC: SR00646SE
REF. CANADIAN STC: SH99-7
REF. EASA STC: 10033942

1.0 PURPOSE

The purpose of this service instruction is to introduce the D350-636-111/-113 Wearplate Kits.

The D350-636-111 Wearplate Kit replaces elements of the D350-636-011/-012/-013/-014 Skidtubes and elements of the D350-636-041/-043/-045 Wearshoe Kit and is designed to improve grip on low friction surfaces such as ice. The components in the D350-636-111 Wearplate Kit are defined in the parts list in Section 2.0.

The D350-636-113 Wearplate Kit replaces elements of the D350-636-015/-016/-017/-018 Skidtubes and elements of the D350-636-047 Wearplate Kit and is designed to improve grip on low friction surfaces such as ice. The components of the D350-636-113 Wearplate Kit are defined in the parts list in Section 2.0

2.0 PARTS LIST

QTY -111	QTY -113	Part Number	Description
X		D350-636-111	WEARPLATE KIT
	X	D350-636-113	WEARPLATE KIT
4		D4923-041	WEARPLATE ASSY
2		D4933-041	WEARPLATE ASSY
2	2	D4934-041	BLADE ASSY
	2	D5146-041	WEARPLATE ASSY
24		AN3C5A	BOLT
	8	AN3C36A	BOLT
	8	MS21043-3	NUT
24	16	NAS1149C0332R	WASHER (AN960C10)

B	ADD D350-636-113 WEARPLATE KIT	DB	14.08.21
A	NEW ISSUE	DB	13.09.11
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	<i>mka</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION SHEET 1 OF 4	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.		DSI 9662	NTS
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